SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Infer the core functional blocks of an IoT ecosystem.

17. Which Application Layer protocols are commonly utilized in IoT ecosystems, and how do they facilitate communication? Discuss.

18. Explain the advantages offered by 3D printing in prototyping embedded devices.

19. Evaluate the essential techniques for writing embedded code in prototypes.

20. Sketch out the ethical issues arises concerning privacy, control, and the environment in business models.

23PCA22 — INTERNET OF THINGS

Time : Three hours   Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL the questions.

1. State the key enabling technologies for the evolution of the Internet of Things (IoT).

2. List out the prominent IoT architectures and frameworks.

3. Comment on the factors influence IoT access technologies at the Physical and MAC layers.

4. How do IEEE standards differ in terms of network topology and security for IoT?

5. Give the foundational principles of embedded computing.

6. Write about some methods for prototyping the physical design of embedded devices.

7. How can one begin working with an API for prototyping online components?

8. Which procedures should be followed when developing a new API for prototyping objectives?

9. Show the concept of business models evolved over time.

10. Recall the significance of the Internet of Starting up in the realm of business models.

SECTION B — (5 × 5 = 25 marks)

Answer ALL the questions.

11. (a) How do Fog, Edge, and Cloud computing contribute to IoT architectures?

Or

(b) Demonstrate the process of connecting smart objects within an IoT ecosystem.

12. (a) Interpret the key considerations for the Network Layer in IoT deployments.

Or

(b) How is IP optimized for IoT concerning routing and transport methods? Explain.

13. (a) Explain about laser culling contribution to prototyping physical designs.

Or

(b) Differentiate Arduino, Raspberry Pi, Beagle Bone Black, and Electric Imp in the context of embedded device prototyping.

14. (a) Summarize the approaches of prototyping online components for real time reactions.

Or

(b) Discuss about the protocols commonly used in prototyping online components.

15. (a) How do Lean Startup principles influence the development of business models?

Or

(b) Write about the key considerations when transitioning to manufacturing in the context of business models.